

REMARKS

Claims 1-39, 43-44, and 47-54 are pending in the present application. In the above amendments, claims 42 and 55-56 have been cancelled without prejudice and new claims 57-59 have been added. Claims 40, 41, 45 and 46 have been cancelled by previous amendment.

Claims 15 and 35 have been allowed by the Patent Office.

In the Office action, the Patent Office rejected claims 1-3, 7-13, 23-26, 32, 36-38, 42-44, 47-49 and 54-56 under 35 U.S.C. § 102(a) as allegedly being anticipated by Kawabe (EP 0998052A2)¹, claim 55 under 35 U.S.C. § 102(a) as allegedly being anticipated by Lee (EP 1017183A2), and claims 4-6, 14, 16-22, 27, 28 and 50-52 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kawabe in view of Subramanian (US 6,459,883). With respect to claims 42, 55 and 56, these rejections are moot. With respect to the remaining claims, Applicant respectfully traverses these rejections.

The Patent Office has indicated in the Summary sheet of the Office action that all claims pending in this case have been rejected. However, the Patent Office has failed to cite any basis for rejecting 29-31, 33-34, 39 and 55. Accordingly, Applicant respectfully requests that the Patent Office withdraw its rejection of these claims.

The above-identified patent application is directed to wireless communication systems. In wireless communication systems, transmitted signals are reflected and scattered by obstacles in their path, resulting in multiple copies (or multiple instances) of the same signal arriving at the receiver. These multiple copies, however, took different paths, so they arrive at the receiver offset in time. A searcher may be used at the receiver to identify these offsets, and assign a finger to each. The fingers can be used by the rake receiver as a timing reference to correlate the multiple instances of the signal.

¹ In paragraph 3 of the Office action, claims 44, 54 and 55 were omitted from the list of claims rejected. However, the rejection of these claims were addressed by the Patent Office in the text that followed.

Kawabe is an example of a rake receiver operated in this fashion. Kawabe discloses a rake receiver having a parallel arrangement of finger processors or despreading blocks (See FIG. 1 of Kawabe). A signal is fed in parallel to each finger processor and despread at the appropriate time offset in accordance with a finger assignment by a matched filter. The parallel outputs from the finger processors are then combined by a rake combining block. A time-division multiplexing scheme is used to share the rake receiver between multiple channels.

Applicant discloses a novel and obvious approach to signal processing in a wireless communications system. Instead of using a dedicated processing element to perform each function, the data processor may be programmable so that one processing element (or a combination of processing elements) can perform any number of different functions depending on how the data processor is programmed. One of those functions may include a rake receiver in which the time offset for each instance of the signal may be tracked. However, instead of assigning fingers to a parallel arrangement of finger processors as done by Kawabe, the time offsets is used to determine where a particular signal instance may be stored in memory. In this manner, the signal may be processed in parallel with separate processing elements, in serial with a common processing element (or a combination of common processing elements), or any combination of parallel and serial processing depending on a set of parameter values programmed into the data processor.

Applicant's attorney appreciates the courtesies extended by the Examiner in a telephonic interview on May 12, 2004. During that interview, Applicant's attorney discussed with the Examiner the differences between the conventional rake receiver disclosed by Kawabe and Applicant's approach. More specifically, Applicant's attorney pointed out that the manner in which Kawabe processes multiple copies of the same signal in parallel is different than processing them in a serial fashion as claimed by Applicant. The Examiner took the position that the claims were not limited in this manner. Although Applicant disagrees, to expedite the prosecution of the case, the claims have been amended to clarify this distinction. Accordingly, these amendments are not narrowing amendments made for reasons of patentability.

Claims 1 and 47, as amended, each recite a data processor “operative to retrieve different segments of digitized samples” from a buffer with “each of the retrieved segments comprising one of the signal instances.”

[T]he data processor is further operative to process two or more of the retrieved segments at different times with the same corresponding segment of a despreading sequence.

Similarly, method claim 48 recites “processing two or more of the retrieved segments at different times ... with the same corresponding segment of a despreading sequence.”

This language clearly distinguishes over Kawabe’s parallel finger processor arrangement. Although Kawabe does teach the concept of time sharing a rake receiver between multiple channels, each of those channels have a different spreading sequence. In other words, the various copies of the signal arriving at the receiver from different propagation paths are processed in parallel by Kawabe. Kawabe does not teach or suggest processing two signal instances with the same spreading sequences at different times, and therefore, Kawabe is legally insufficient to support an anticipatory rejection of the claims. Accordingly, Applicant respectfully requests that the rejections of claims 1, 47 and 48 be withdrawn.

Claims 2-39 and 43-44 are dependent from claim 1, and claims 49-53 are dependent from claim 48, and therefore, these claims include all the limitations of the claims from which they respectively depend. Accordingly, these claims are also allowable for the same reasons set forth hereinbefore, as well as the additional limitations recited. These additional limitations need not be addressed at this time because the limitations recited in claims 1 and 48 are sufficient to establish patentability.

Claims 57-59 have been added. These claims do not require that two or more signal instances with the same spreading sequence be processed at different times. However, they do include other limitations that clearly distinguish them over the art of record.

REQUEST FOR ALLOWANCE

Applicant respectfully requests reconsideration and allowance of the pending claims. Should any issues remain which the Examiner believes could be resolved in a telephone interview, the Examiner is requested to telephone Applicant's undersigned attorney.

Respectfully submitted,

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